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Post-Acquisition Management and the Issue of Inaccessibility

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Abstract

Though advocates are calling for publishers to develop born-accessible e-books to comply with Americans with Disabilities Act (ADA) and Digital Accessible Information System (DAISY) standards and the EPUB 3.0 measures now backed by the Society for Disability Studies, the realistic timespan for this achievement to become standard practice is far from ideal. To equitably serve users with disabilities, stronger technology and a mindset toward accessibility must become the standard in electronic collections. Librarians are expected to have a strong working knowledge of the library's collections but receive little training in best practices for assisting patrons with disabilities. We cannot wait for the e-book landscape to change on its own. Instead, we must recognize how to develop usable collections for all and how to respond to those whose access has been limited. This research is the product of both current research and earlier findings of the user experience research team from the Mellon-funded Charlotte Initiative project. This paper focuses on the accessible e-book landscape and provides librarians with tools to better assist users working independently in discovery systems as they interact with the library's current acquisitions. Additionally, librarians will acquire techniques for responding to those who cannot use the texts they wish and understand how such a mindset can help us develop stronger collections of use to all.

Introduction

Because we now live in an age where the use of technology is commonplace, most users with no apparent disabilities have come to accept that there are still hiccups with how technology operates, illogical design or programming choices, or workarounds necessary to accomplish certain goals. However, we must recognize that these matters can be the determining factor for a user with disabilities to successfully complete a task. Many platforms that academic libraries have access to are not only frustrating to use but are either partially or wholly inaccessible to users with disabilities. Therefore, the library has a responsibility to ensure that services are in place to assist all students with any technology in a timely manner and in ways that best fulfill the help request.

While library systems and databases pose one set of inaccessibility issues best left to another discussion, e-books and e-book platforms are particularly tricky. The Mellon-funded project, "The Charlotte Initiative: Principles for Permanent Acquisition of e-Books for Academic Libraries," currently addresses three principles: simultaneous users, no digital rights management (DRM), and irrevocable perpetual access and archival rights. Though the project is hosted by J. Murrey Atkins Library at the University of North Carolina at Charlotte (UNC Charlotte), it involves nearly 70 librarians, publishers, and

consultants from universities throughout the United States and Canada. The user experience (UX) research team, focused on here, has thus far conducted a literature review (Caruso & Bradley, 2015) and has begun user studies of various e-book platforms. The literature review showed that many e-book studies lack specificity in noting the platforms studied, that they attempted to suggest ease of use by way of statistics, and that e-books and the platforms that host them are frustrating and not user friendly. However, it also uncovered an unnerving fact—that most studies and platform evaluations focus only on what we might think of as an average user, ignoring issues of accessibility altogether.

One issue is that librarians often use the term *accessible* when referring to material that can be accessed, meaning able to be navigated to and downloaded. The result is that when talking with librarians about accessibility, the assumption is that we are speaking about access, not about accessibility—access and usability for users with disabilities. Because of how these terms are used in their respective fields and because of the lack of accessibility training, it is easy for librarians to equate the two, assuming that *accessibility* only refers to access. However, when this occurs, the larger problems with systems and materials remain overlooked. This piece aims to overturn that mentality.

The Issue of Inaccessibility

In 2012, the U.S. Census Bureau noted that approximately 8.1 million people had visual differences, and 19.9 million had narrow physical dexterity capabilities. While there are further statistics from the Bureau, these two are especially important when considering e-book user experience, visual, and physical differences. These, along with learning disabilities, which are traditionally invisible, could greatly influence user interactions.

Many students with visual and physical differences cannot use e-books with the following characteristics:

- Prove difficult to find in the library's systems or require many clicks to navigate to and open.
- Are scanned or untagged PDFs.
- Present static, nonreflowable text.
- Require proprietary, inaccessible reading platforms.
- Present individual chapters for download without an option for the full text in a single file.

Many issues, such as the first and last in this list, relate to all users but in different ways. To those with disabilities, the issues can mean a complete limitation; to those without disabilities, they can simply present frustration. Either way, these lead to problematic user experiences, and e-books and platforms must be reconceptualized to meet users' needs at all levels.

Universal Design for Learning

The concept of universal design for learning (UD) illustrates that in order for everyone to learn, the developer of a work or a product must provide the opportunity for users to interact with the material in a multitude of ways. Following the principles of UD creates the ideal user experience. While UD can provide for users who prefer learning in specific ways, it also accommodates those with learning or physical differences, as interaction is customizable. The concept tells that we should "provide multiple means of . . . Engagement, Representation, [and] Action & Expression" (Universal Design, 2016). While

there are many more ways in which creators can provide these three mechanisms, the standards below show the options necessary for e-books and e-book platforms.

- Engagement:
 - "Provide options for recruiting interest"
 - "Optimize individual choice and autonomy"
 - "Optimize relevance, value, and authenticity"
 - "Minimize threats and distractions"
- Representation:
 - "Provide options for perception"
 - "Offer ways of customizing the display of information"
 - "Offer alternatives for auditory information"
 - "Offer alternatives for visual information"
- Action & expression:
 - "Provide options for physical action"
 - "Vary the methods for response and navigation"
 - "Optimize access to tools and assistive technologies" (Universal Design, 2016).

Often, we may think of something such as "customizing the display of information" as a privilege and not a right. However, there are many users who require these types of options in order to access content. When those options are not provided, they must seek out other information or find someone who can assist them. Because this is not a typical experience for those without disabilities, those who require these options are immediately "othered" by the system. Approaching design with UD in mind ensures that tasks are normalized for all users, from those who require the options to those who just prefer to have them. As publishers and platform designers apply these concepts, they will ultimately cultivate products that are not only viable for the broadest possible spectrum of users, but are also less frustrating and less confusing.

The Frustrations

Many members of the UX team are in the process of completing user tests on several platforms, each chosen by members at those institutions. At UNC Charlotte, we decided to test four platforms,¹ and while the user study is currently underway, we have already found that seemingly straightforward platforms can greatly confuse users. When interacting with Taylor & Francis, a user commented that scrolling through the e-book was an option, but the platform's e-book reader caused a single scrolling motion to jump as many as six pages. Another user noticed that the same platform reader did not allow a user to move from page to page using the keyboard's arrow keys. While this was simply a preference for this user, those with motor skills or dexterity differences may find it more difficult to move through the e-book because of an inconsistent keyboard alternative.² Additionally, when attempting to find page 100, many users would type the number in the page number box, believing that the system took them to the correct page, when, in fact, it took them to a much earlier page in the book because the system included the cover and all front matter in the page count. If users were assigned a page to read, they would be reading the wrong page and may never notice.

The issues mentioned here were discovered by participants without any disclosed disabilities and may seem trivial or easily fixed by the user.

¹ UNC Charlotte studied Taylor & Francis, Project MUSE, Springer, and Oxford. While the actions and results in this section are discussed for the Taylor & Francis platform, many of these issues are manifest in these and other platforms.

² Some users who completed this study attempted using the up and down arrow keys and others the left and right. The student in question attempted the left and right keys, which did not result in a page move. While it could be argued that using the up and down keys resolves the problem, the confusing setup of platform readers can easily cause an alternative perception of the text. If students equate the electronic copy with a physical book or think of the platform reader as similar to an online photo presentation, they may perceive the movement as horizontal, rather than vertical. If this perception is a possibility in the individual platform, then all possible navigation options should be available.

However, not only is this not a streamlined user experience for those without disabilities, but for those with disabilities, these functions can be unbearable and can cause users to give up on reading the book or finding information within it.

The Current Issue

Initiatives are currently underway to make all e-books accessible to users with disabilities, but the realistic timespan for this achievement to become standard practice is still far from ideal. Until every e-book is accessible, our libraries will still have e-books that are unusable for these students.

Standard Practices

When attempting to access or use an e-book that poses limitations, students with disabilities are often faced with the response that the technology they need in order to use that material simply has not been applied to that e-book yet. Sometimes, they are left to fend for themselves, but in other instances, librarians do their best to get information to the student quickly.

Often, the first step in making an e-book accessible to a user with disabilities is to contact the publisher for an accessible or tagged file (Michaud, 2012; Rosen, 2016). However, if an e-book is presented in an inaccessible format for purchase, it is likely not presented in a second, accessible version. In these cases, librarians may scrape out the text to create a text-only file (Spry, 2016). While this can be a quick-fix, the time commitment involved usually only allows for text-only files. In these cases, librarians must forego accessible headings, causing navigation difficulties, as well as captioning or tagging pictures and graphs, excluding the items meant to enhance ideas. Other libraries also extend scanning services to users with print disabilities to create an optical character recognition (OCR) file, which can then be accessible to users who require the use of assistive technologies (Rosen, 2016).

A Note on Disability Services

First, it is important to note that if a student has a disability that changes the way they work with materials, they will have likely registered with the campus' Disability Services office and will know of

various services available to them. One such service is the electronic textbook service, which closely mirrors librarians' practices mentioned previously for textbooks sent to them before or at the beginning of the semester. The service is both helpful and widely used, but because the many requests Disability Services often needs to complete, librarians would be a timelier resource when students need accessible files for research, quick reference, or unexpected readings.

Recent Initiatives

While the techniques mentioned above do help to an extent, the mere existence of inaccessible e-books is against the law. To comply with Section 504 codes and to ensure equality and equity of access, interest groups across the United States are calling states to make accessibility a priority. Petitions to publishers, the white paper that instigated an initiative in Texas, and the Tennessee Board of Regents giving deadlines for making materials accessible (see "Initiatives Resources") are all certainly steps in the right direction. However, because so many libraries have e-books that are not accessible and will not be for quite some time, librarians must be trained to assist all users with the e-books the library already has. The sections to follow will highlight techniques that libraries can implement while waiting for the evolution of accessibility. Additionally, many of these suggestions can give direction for assisting with other digital materials even after e-book accessibility is commonplace and can help define factors that will cause accessibility to be a priority in all areas.

Techniques for Further Assistance

While the standard practices are certainly helpful and the initiatives mentioned previously are a step in the right direction, there are other things we can do to better or further assist these users. The practices below can lead to further initiatives and further discovery of best practices for working with all users.

Technology Aids

Libraries should explore what other programs and departments are doing to assist users with disabilities. For example, Disabilities Services offices

can hire temporary technology aids to assist students with their technology needs. However, they are often hired per semester, and not all students have access to one. To provide this service for all library users on demand, the library should hire and train its own technology aids, whether they are student workers or full-time librarians. Then, users may receive immediate assistance with library technology, such as e-books and e-book platforms. Training all student workers in these platforms will ensure that they can sit down with a student for any length of time to assist them with the technology. Once these services are in place, they should be advertised in the library and through Disability Services.

Professional Development and In-House Workshops

It is no secret that librarians and other university professionals have little experience with accessibility training, but they have a great deal of training in their respective fields. Most programs and departments offer in-house workshops or support outside professional development for those disciplines, but sponsoring and encouraging accessibility training is of the utmost importance. As they participate in this training, librarians will not only better understand how to assist students with disabilities, but it will better prepare them for working with all types of individuals and better understand users' needs.

Report Difficulties

Too often, platform issues go unreported either because we assume they are already being fixed or because they seem too trivial to report. While the process of reporting can be frustrating, keeping quiet about the issues will only serve to prolong them and will continue to limit users who wish to use materials in specific ways. Collecting the same issue complaint from multiple libraries will help the publisher or platform developer realize that it is not an isolated issue and is more likely to instigate change.

Conclusion

Though the initiatives currently underway by interest groups may suggest that full e-book

accessibility will be routine in the very near future, global implementation is still likely far away. While the techniques mentioned above will assist librarians until accessible e-books are the norm, they are applicable to many other library-related issues. Even after all e-books become accessible, all discovery systems and new systems that come into focus will still need continuous user experience assessment. Working with users in need of accessible texts or who use assistive technology can better inform us how to develop finding aids and shortcuts that can help all users navigate to and make use of e-books and other digital materials. Accessibility training will also allow librarians to better understand any physical limitations the library may place on students.

Libraries have always taken pride in their holdings and with good reason, but as times and holdings change, we must reassess the effectiveness of those collections, and that pride must now be earned. As librarians come to understand more about accessibility measures and how to cater to all students equitably, better collection development decisions will be made. Librarians will come to demand accessible e-books from publishers and accessible platforms from developers, and such a demand will change the e-resources landscape, the types of holdings libraries retain, and how they are used. Accessibility will become a priority. In the meantime, we must outwardly demonstrate our commitment to accessibility and assisting all students equitably.

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